Technology, T-19-4370
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Research Note
25 March 2003

Enterprise Desktop Recommendations: 1H03 Update

Gartner's updated desktop hardware configurations for enterprise customers reflect current technology bargains as well as those technologies that offer stability and consistency.

Core Topic
Hardware Platforms: Client Platforms

Key Issue
How will desktop and mobile client platforms evolve during the next five years?

Despite desktop hardware's continued evolution of newer and more-reliable technologies, desktops are, for the most part, commoditized products. The product offerings from major original equipment manufacturers (OEMs) are nearly identical at the component level; real product differentiation exists at the level of service, support, warranty and the tools included. We encourage enterprises to segment their users based on user requirements into two groups: mainstream and power users. The mix of the users will vary based on application and business requirements; we believe the mix is somewhere around 85 percent mainstream and 15 percent power users for most of an enterprise's installed base. Gartner's recommendations are outlined in Figure 1.

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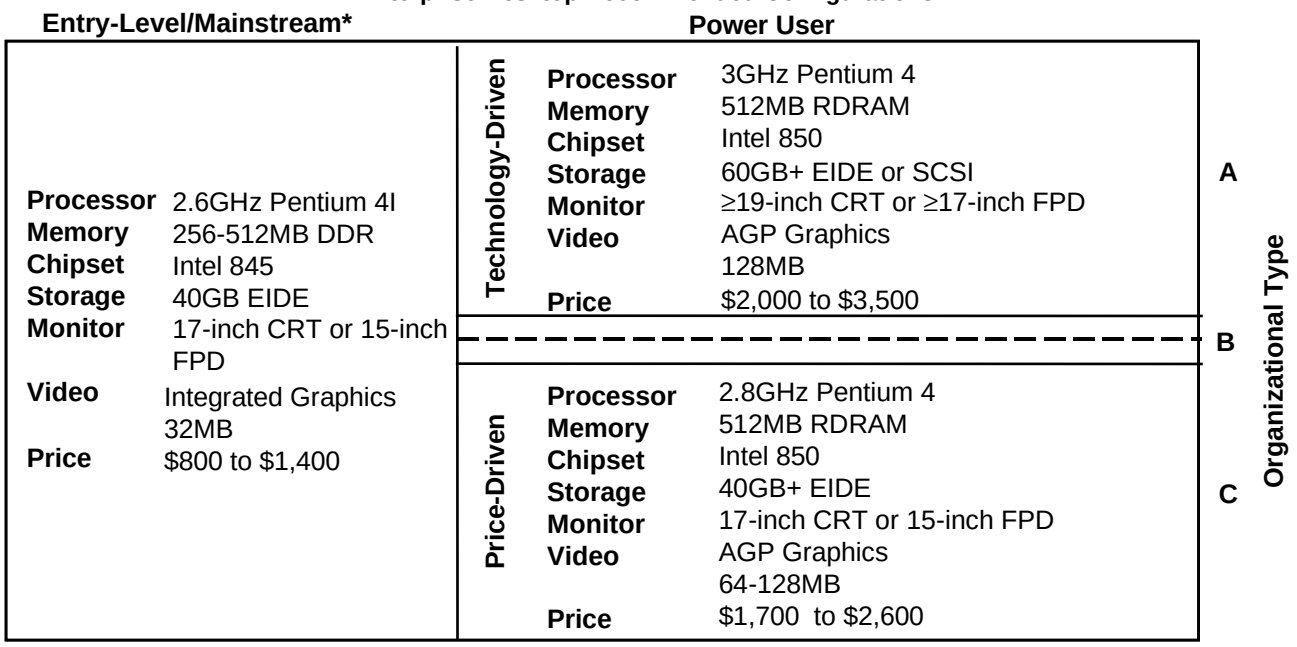
Figure 1

Enterprise Desktop Recommended Configurations



* May be small-form-factor, legacy-free/reduced.

AGP = Accelerated Graphics Port
CRT = Cathode ray tube
DDR = Double data rate
EIDE = Enhanced Integrated Drive Electronics
FPD = Flat-panel display
RDRAM = Rambus Dynamic Random Access Memory
SCSI = Small Computer Systems Interface

Source: Gartner Research (March 2003)

The crux of our recommendations is twofold: value and stability. Riding down price curves, a trend that began in the late 1990s, became acutely evident last year, as the general economic markets softened. We anticipate no real letup in this phenomenon and believe there will be increased pressures on IS and procurement managers, who will be questioned on nearly all PC purchases. In addition, we recognize that most IS organizations are adopting desktop PC life cycles that are at four years (and are getting longer) for mainstream users; Gartner continues to recommend four years for desktop refresh for mainstream users.

With regard to stability, we are encouraging customers to adopt enterprise-class PCs that offer the greatest consistency of components and the fewest image change requirements. Factors affecting stability are chipsets, Basic Input/Output System (BIOS) changes, video and network drivers. In addition, although Windows 2000 Professional and Windows XP both offer significantly better plug-and-play and hardware detection technologies that ease imaging issues, image management and consistency are still problematic and remain critical to lowering image creation and management costs.

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Technologies

The specific technology recommended is the continued adoption of Pentium 4 for enterprise customers — 2.6GHz for mainstream users and 3.06GHz for power users. Power users are also encouraged to enable hyperthreading (HT) in their systems, provided application testing and stability have been conducted (see "Hyper-Threading Lets Intel's 3 GHz Processor Do More Work"). Mainstream-user PCs should also be configured for HT once enterprises have migrated their standard PC configurations to include chipsets that support HT. HT is enabled in the BIOS and requires Microsoft Windows XP.

The Advanced Micro Devices (AMD)-based Athlon and Intel Celeron PCs, while being technically viable solutions, remain absent from our recommendations, because major OEMs have failed to deliver a product we consider to be enterprise-ready. IBM, Hewlett-Packard (HP) and Dell Computer continue to offer Pentium-only offerings in their workhorse and highly managed models. For small and midsize businesses and consumers, AMD and Celeron continue to be viable alternatives, as demonstrated by the HP Evo D315.

The factor most affecting image consistency is the chipset changes that typically accompany new PCs. Intel has a wide variety of chipset choices: 845G, 845GV, 845E, 845GE and 845GL. For mainstream use, we recommend the 845G chipset, as it supports integrated graphics, networking and 533 Front Side Bus. Power users are recommended to adopt PCs with the 850 chipset, as the enhanced performance of Rambus Dynamic Random Access Memory (RDRAM) and discrete graphics offer high performance that complex applications require. We anticipate, however, that the wide-scale availability of RDRAM-based systems will begin to disappear by 3Q03 (0.8 probability), and ultimately they will be replaced by higher-performing double data rate (DDR) memory for maximum-performance-class systems.

Display technologies are also worth mentioning. Gartner's recommendation for mainstream clients is to continue purchasing 17-inch cathode ray tube (CRT) or 15-inch flat-panel display (FPD) — which offer approximately the same screen area — through the remainder of 2003. Power users are encouraged to adopt 19-inch or greater CRT or 17-inch or greater FPD. We believe, however, that, by 2H04, most, if not all, enterprise customers will embrace FPDs as standard for all their users (0.7 probability).

Other components included are integrated graphics (32MB RAM) for mainstream users, discrete graphics (64MB to 128MB RAM)

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for power users, 256MB to 512MB DDR system memory for mainstream users, 512MB RDRAM memory for power users, and Gigabit Ethernet for all users. In general, organizations wishing to maintain a four-year (or longer) life for their systems (a common trend among enterprises) for mainstream users should standardize on 512MB of memory. Enterprises that maintain a more aggressive refresh strategy of three years will be best-served with 256MB of memory for their mainstream users. Gigabit networking, while not readily deployable in most enterprises, is available at "price-point replacement" in PCs targeted at the enterprise. Therefore, customers should not pay a premium for this feature.

Bottom Line: Gartner's recommended configurations should be used as a guideline for enterprise customers deploying desktop PC hardware. Although technical differences are, for the most part, insignificant among different original-equipment-manufacturer models, OEMs are different in the way they provide service and support to their customers.

Acronym Key

AMD	Advanced Micro Devices
BIOS	Basic Input/Output System
CRT	Cathode ray tube
DDR	Double data rate
FPD	Flat-panel display
HP	Hewlett-Packard
HT	Hyperthreading
OEM	Original equipment manufacturer
RAM	Random-access memory
RDRAM	Rambus Dynamic Random Access Memory

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